

Mayor's Climate Council

May 12, 2020



Mayor's Climate Council

1. Mayor Indya Kincannon, Mayor
2. Alicia Hemmings, Sunrise Movement Knoxville Hub
3. Amy Hathaway, Forest Heights Neighborhood Association
4. Brian Hann, Dewhirst Properties
5. Chris Cimino, University of Tennessee
6. Pastor Chris Battle, The Underground Collective/Battlefield Farms
7. Cortney Piper, Piper Communications/Tennessee Advanced Energy Business Council
8. Gabriel Bolas, Knoxville Utilities Board
9. George Wallace, Coldwell Banker Wallace
10. Nancy Nabors, Knoxville Chamber
11. Rebecca Tolene, Tennessee Valley Authority
12. Stan Johnson, Socially Equal Energy Efficient Development
13. Dr. Stephen Smith, Southern Alliance for Clean Energy
14. Erin Gill, Chief Policy Officer City of Knoxville
15. Brian Blackmon, Sustainability Director City of Knoxville

Agenda

- Overview of Climate Council
- Overview of local emissions data and major drivers
- Discussion of process for identifying strategies
- Next Steps
- Conclusion

Emission Reduction Goals

relative to 2005



Leaders Move Forward

New Emission Reduction Goals

City Government Leads by Example:

50% by 2030 for Municipal Operations

Aspire for Deep Community Progress:

80% by 2050 for Community

Rules for success from our facilitation team

- Be respectful; we won't always agree.
- We'll pause frequently for conversation. Stay muted until then.
- We will have slides prompting a pause for open mic discussion.
- If you've got a burning question you want to queue up at the front of the line:
 - Ask in chat; or,
 - Raise a hand



Mayor's Climate Council: Our Role

Provide high-level, cross-sector leadership to chart a path to reduce Knoxville Community emissions 80% by 2050.

1

Identify and
prioritize emission
reduction
strategies.

2

Discuss
opportunities and
challenges for
proposed actions.

3

Make final
recommendations
to inform City work
plan and long-term
vision.

Climate Change Mitigation

- Reducing emissions of and stabilizing the levels of heat-trapping greenhouse gases in the atmosphere

<https://climate.nasa.gov/solutions/adaptation-mitigation/>

Components of Process



Mayor's Climate Council

Cross-sector community leadership.

Balanced for perspectives.

Meet bi-monthly over next 9 months.



Technical Working Groups

Specific to 3 sectors:
Transportation, Energy, and Waste.

Technical experts in their field.

Deep-dive discussion to move from broad to specific.



Equity Working Group

Local leaders representing front-line and historically marginalized communities.

Will help center equity within climate planning.

Meet at least 5 times over the next 9 months.

Sample Flow



Mayor's Climate Council Timeline

Kick-off

- Purpose and Scoping
- Strategies discussion

MAY 2020



Transportation

- Recap of council prioritization
- Presentations from technical experts
- Discussion of opportunities/challenges

JULY 2020



Energy/Buildings

- Report from Working Groups
- Recap of council prioritization
- Presentations from technical experts
- Discussion of opportunities/challenges

SEPTEMBER 2020



Waste

- Report from Working Groups
- Recap of council prioritization
- Presentations from technical experts
- Discussion of opportunities/challenges

NOVEMBER 2020



Annual Recap

- Report from Working Groups
- Recap of previous strategies and goals
- Adoption of strategies and goals

JANUARY 2021



2020

2021



JUNE 2020

Follow Up Coordination



AUGUST 2020

Working Groups



OCTOBER 2020

Working Groups



DECEMBER 2020

Working Groups

Available on www.knoxvilletn.gov/ClimateCouncil/

PAUSE

Questions and discussion

Inventories

- We follow best practices outlined by the Greenhouse Gas Protocol (www.ghgprotocol.org).
- We follow the BASIC+ reporting protocol.
- We publicly disclose our inventory through a global portal. We also have published emissions data on www.knoxvilletn.gov/emissions/.

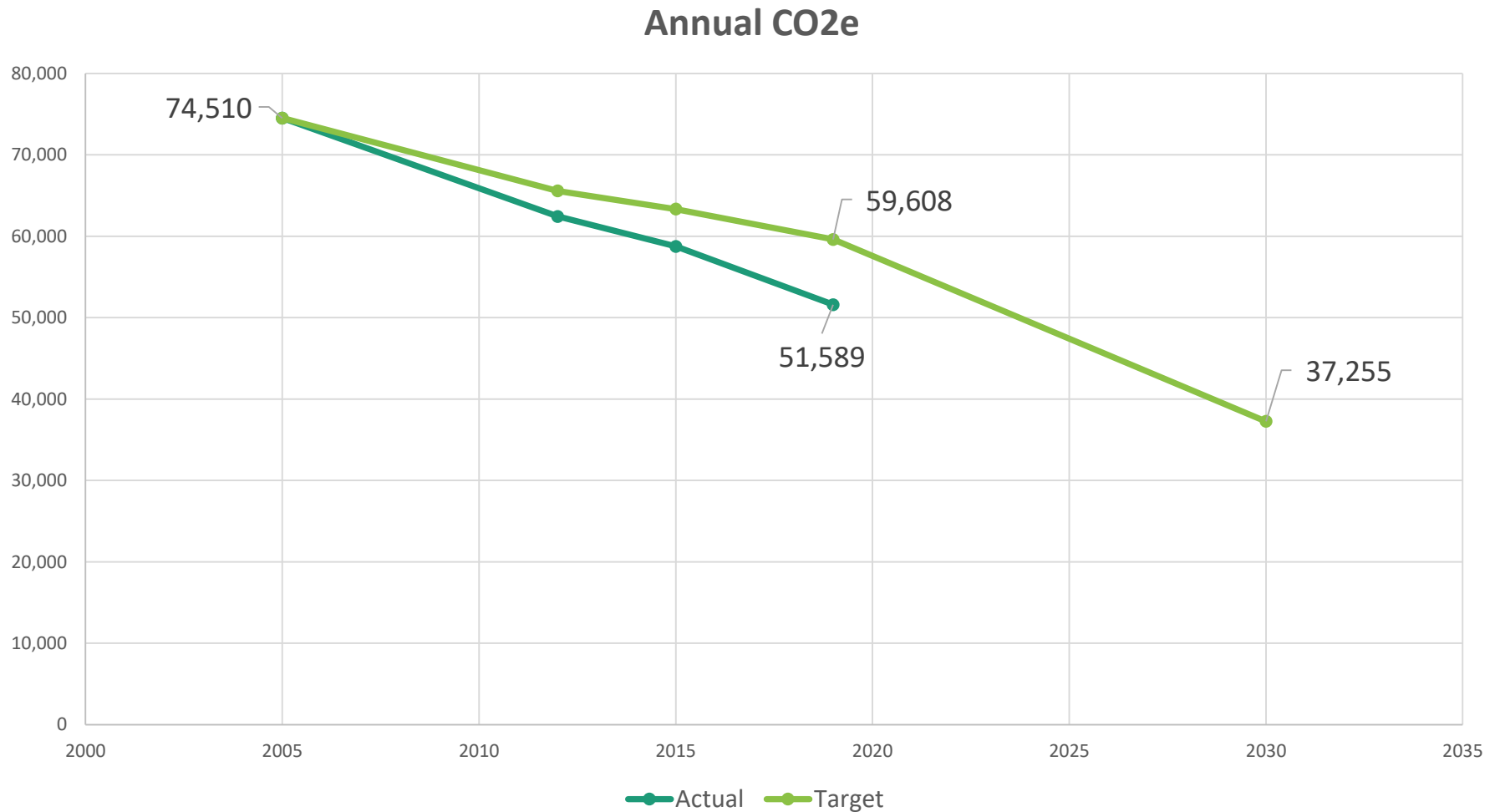
City Operation Metrics

- **Total Emissions** Down 31%
- **Energy Intensity** Down 24%
- **Cost per square foot** Down 7%
- **Municipal Renewable Energy** 200 kW*
- **Streetlight Energy Use** Down 43%*

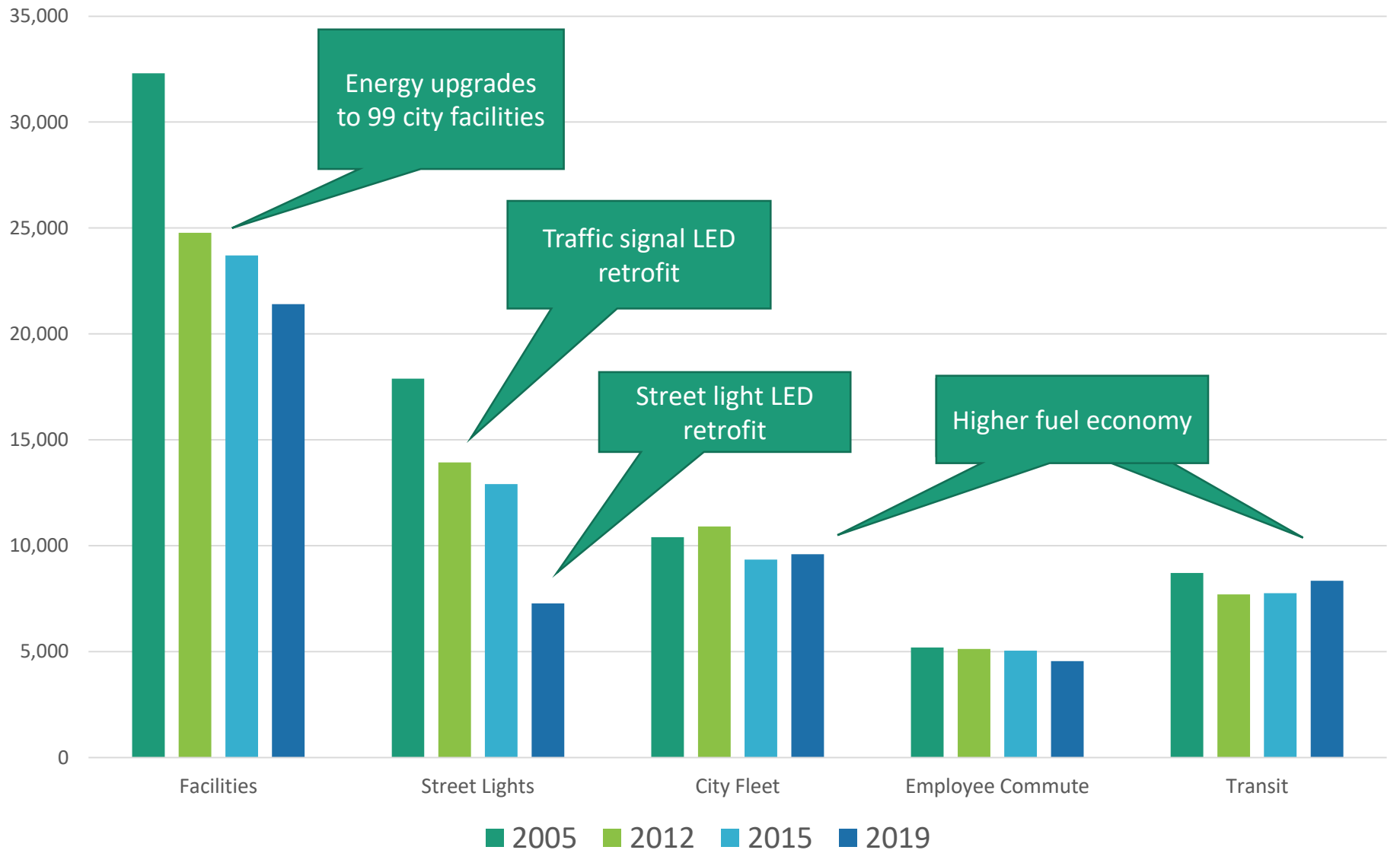
*Hosted on City property

*Annual to 2019. Projected reduction of 60% in 2020 with full year of retrofit.

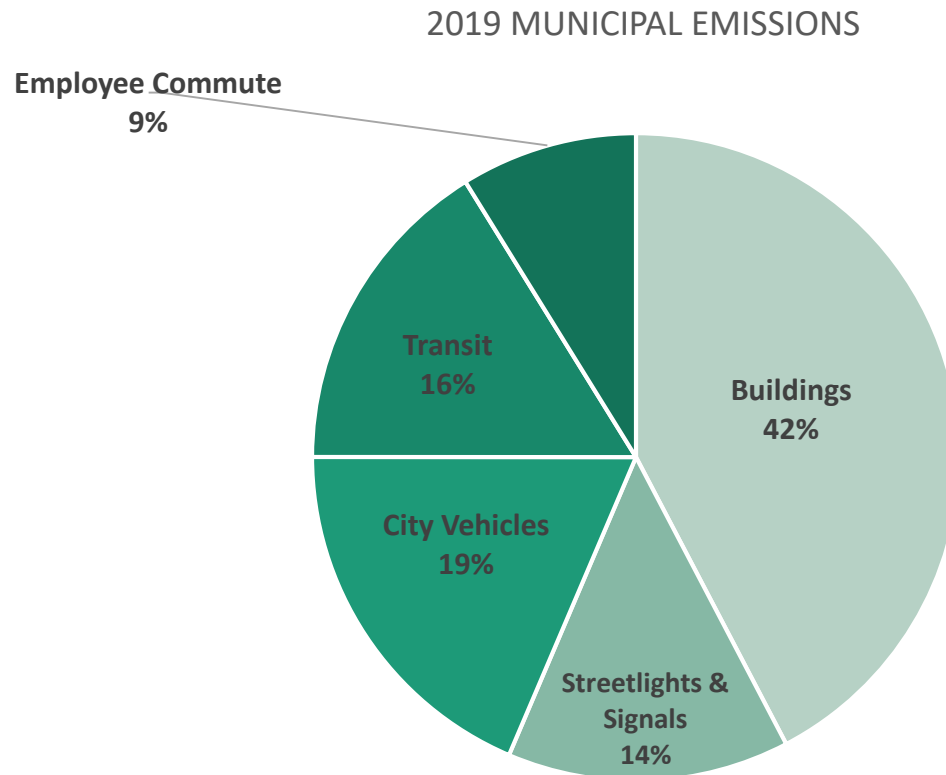
Municipal Performance vs Targets



City of Knoxville Operations CO2e Emissions (metric tons)



Municipal Profile (2019)



PAUSE

Questions and discussion

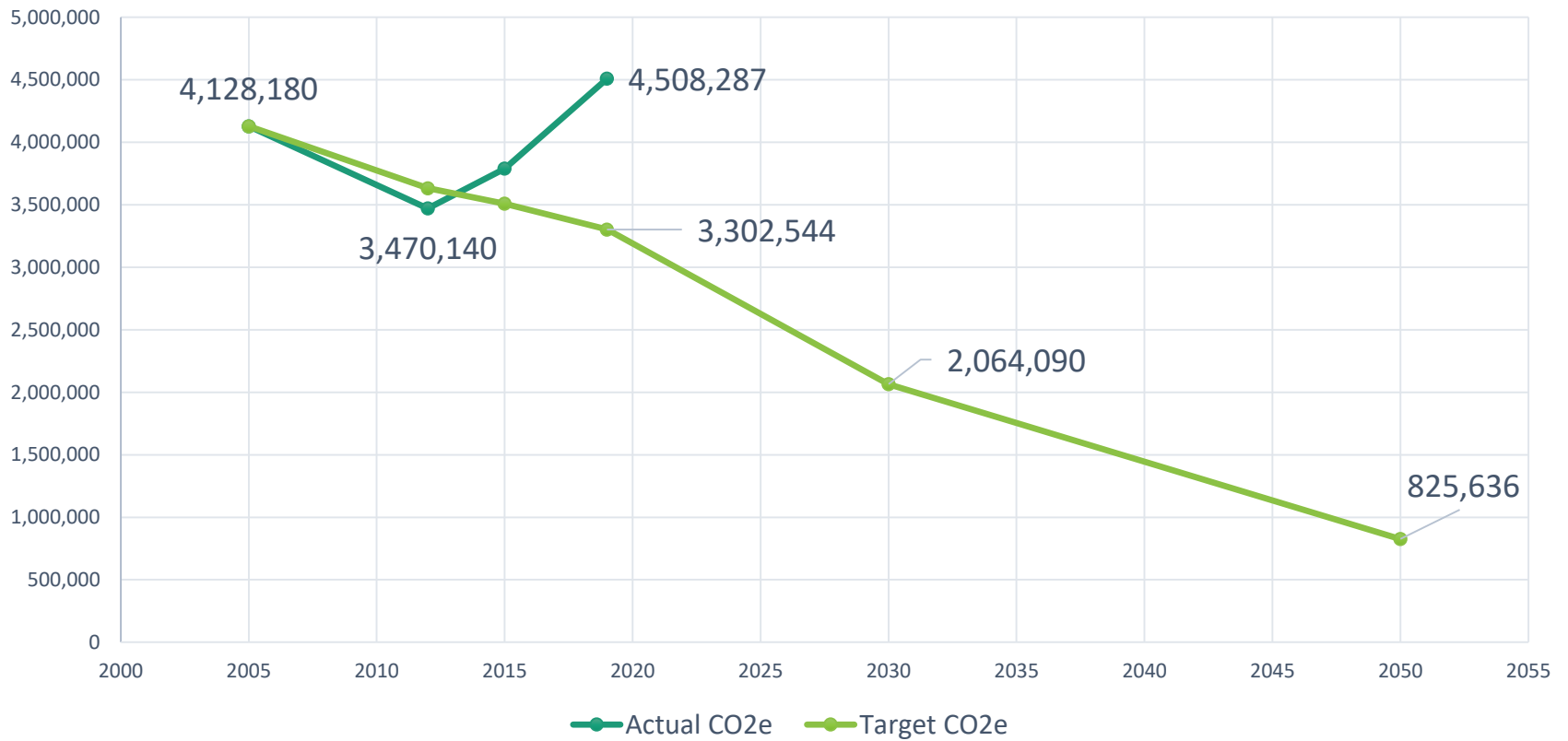
Community Emissions

Key Indicators 2005 – 2019

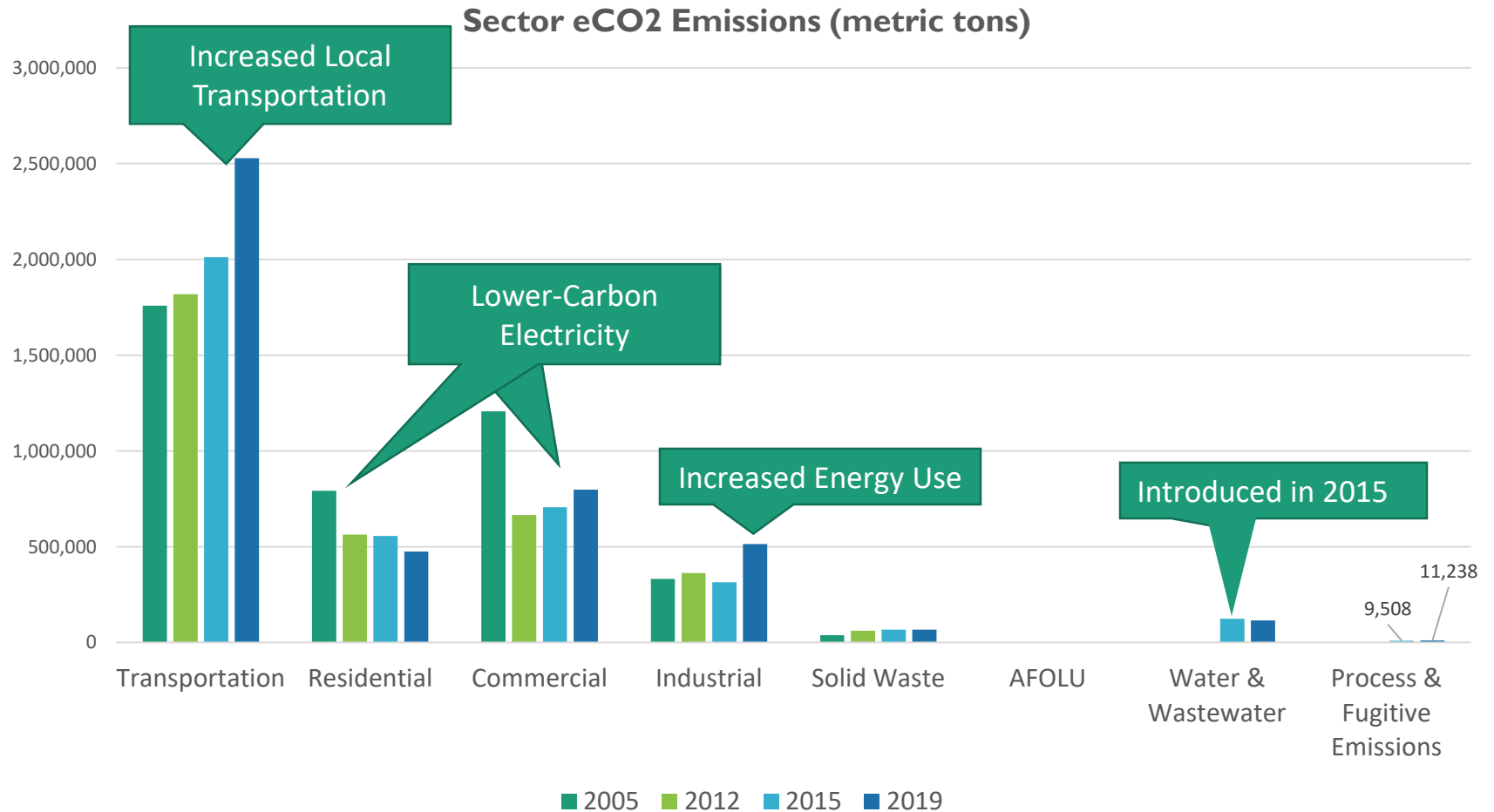
- **City Population** Up 7.5%
- **County Population** Up 16.1%
- **Knoxville GDP** (2005-2018) Up 46.8%
- **City-Wide Emissions** Up 9%
- **Emissions from Buildings** Down 23%

Performance vs Targets

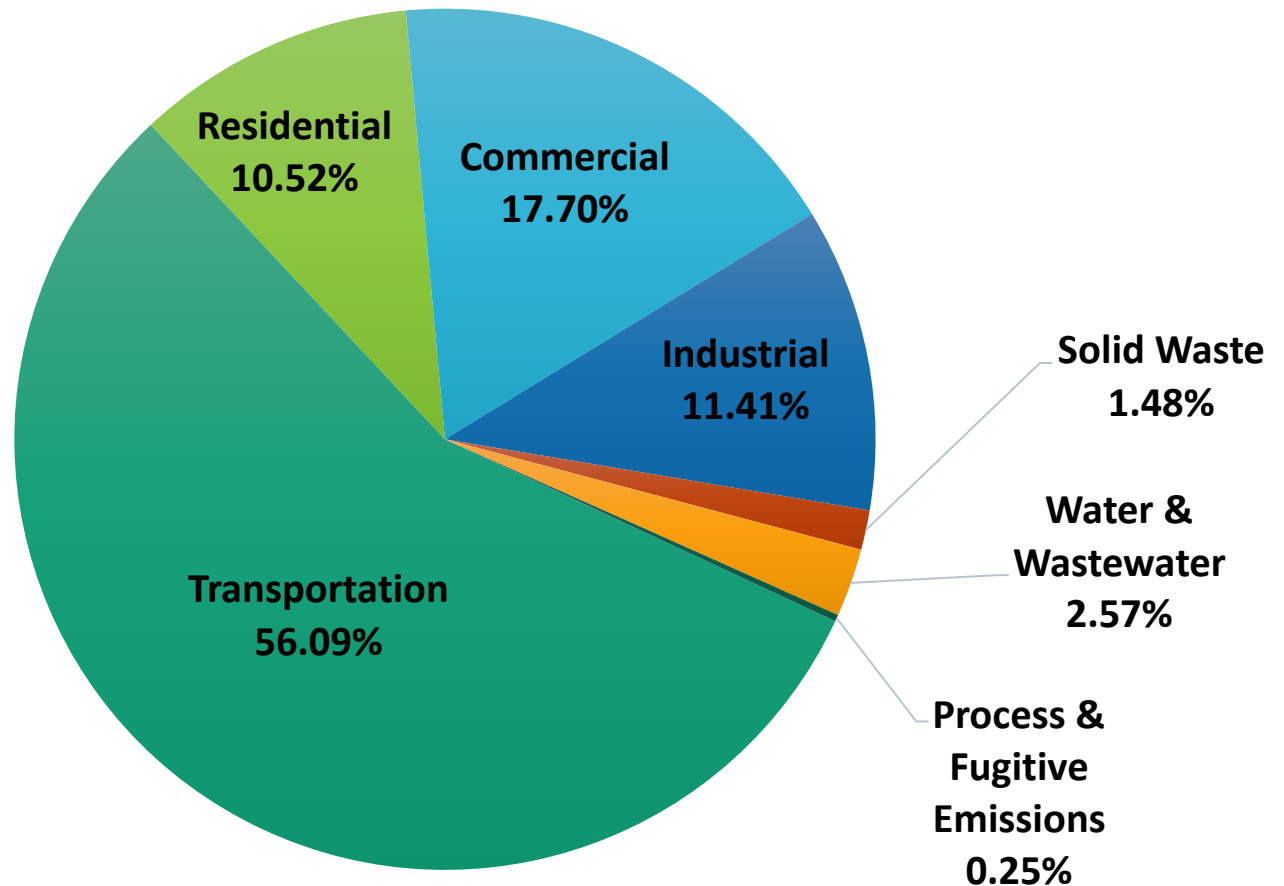
Community CO2e totals (metric tons)



Sector Performance



Community Profile (2019)



PAUSE

Questions and discussion

Transportation



Makes up 56% of
area emissions



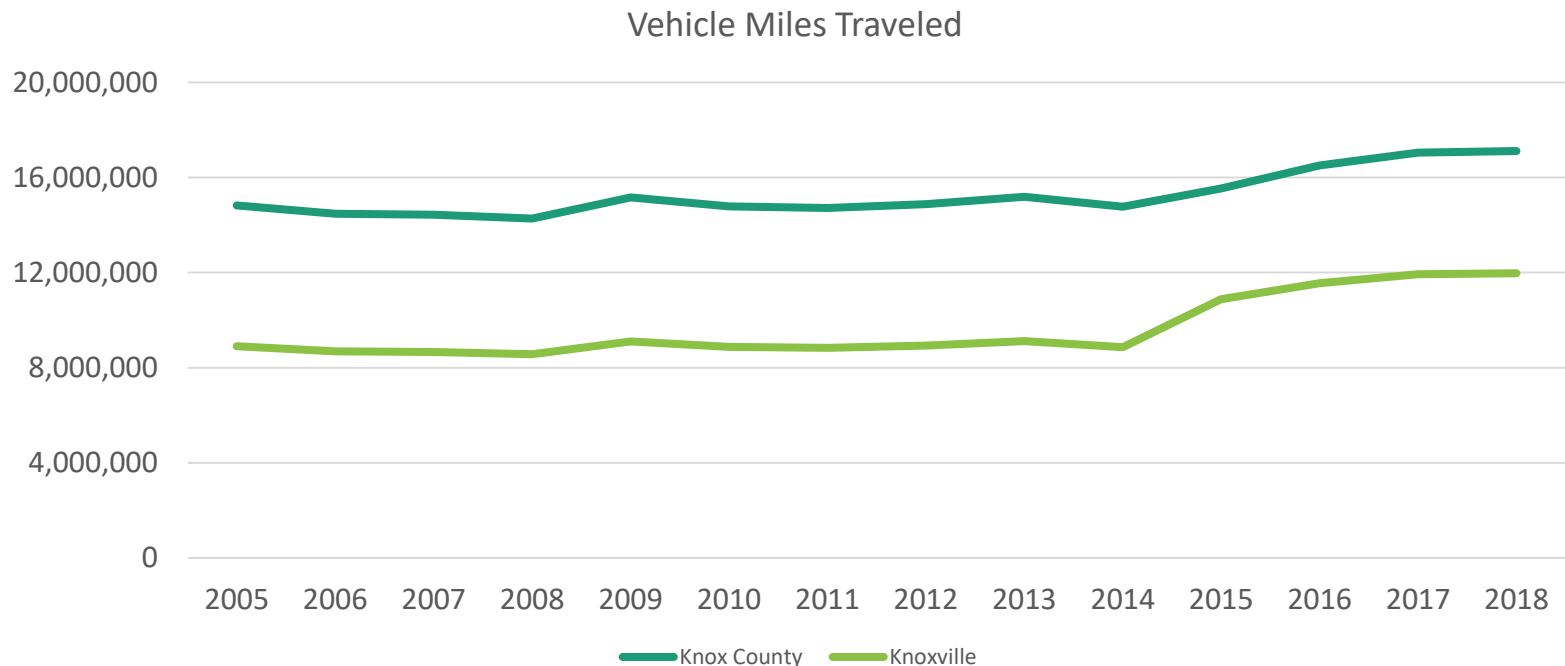
44% increase in
emissions due to
increase in trips



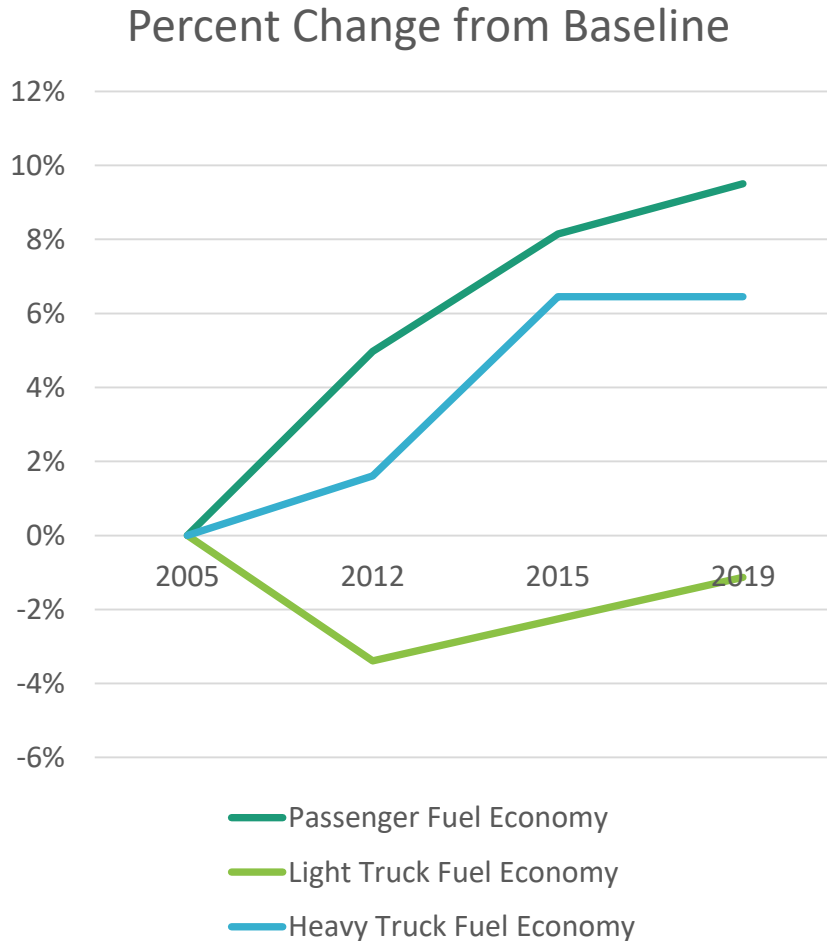
CO₂e per mile
down 3% due to
fuel efficiency

Emissions vs Traffic

- Emissions are up primarily because volume of traffic is up 15% in the County.
- Our share of those emissions has also increased over time as the City grows.



Fuel Economy Improvements



- CO₂e/mile is down 3% because of fuel economy gains
- Fuel economy gains can't displace increase in traffic
- Fuel economy trends are slow accumulate.
- The average age of a vehicle on the road locally is 10+ years old

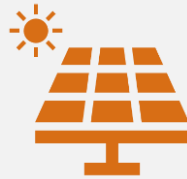
PAUSE

Questions and discussion

Buildings



Makes up 40% of
area emissions



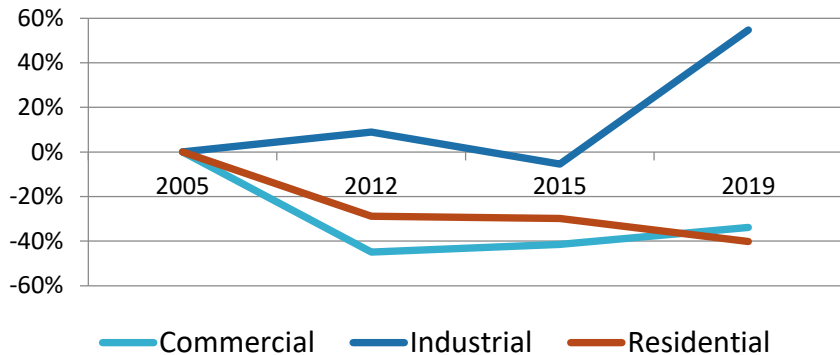
23% lower largely
due to lower
carbon electricity



7% increase in
consumption

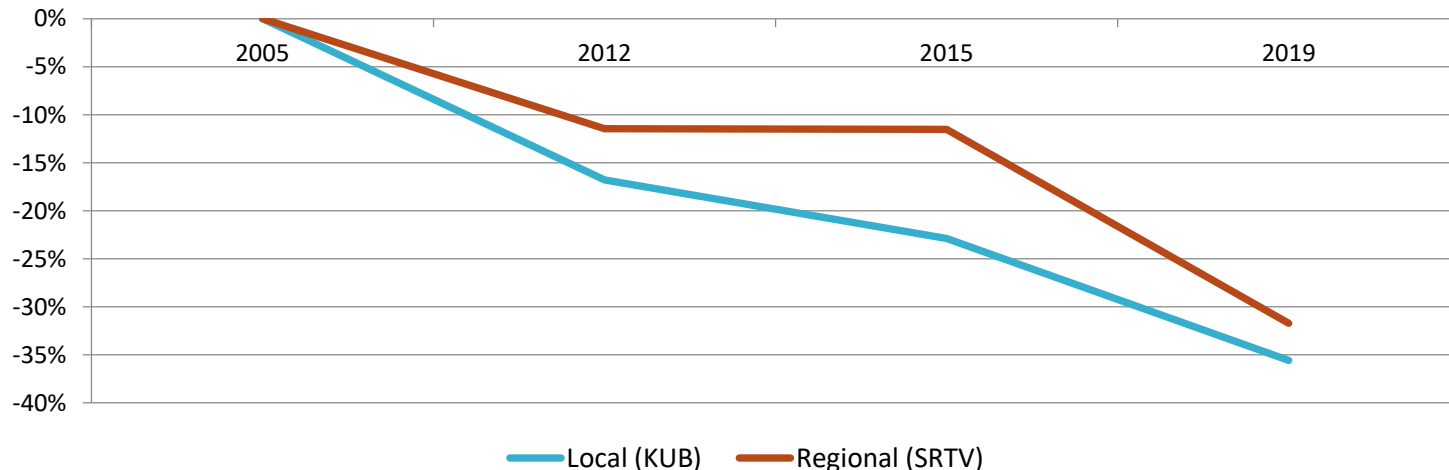
Emissions by Sector

Emissions from Energy Use

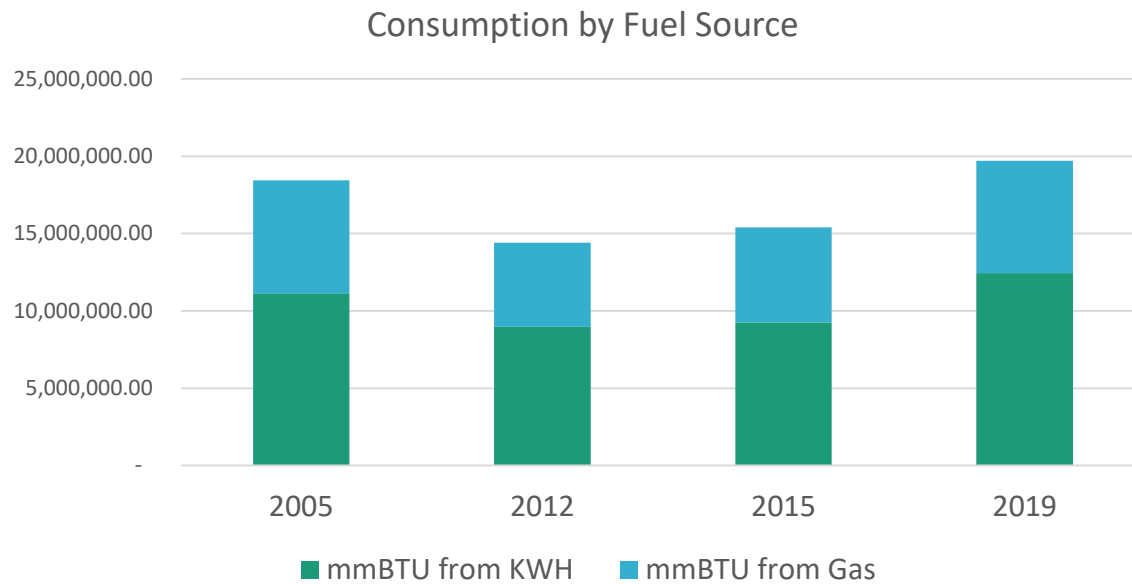


- Emissions from electricity driving most sectors down
- 2019 was especially high for industrial accounts (left)
- Our local delivered electricity tracks slightly lower carbon than the region (bottom).

Regional Emission Comparison (CO2/MWh)



Energy Use Characteristics



- Electricity consistently makes up approximately 60% of all energy use
- Electricity use is up 12% (mmBTU)
- Natural Gas use is down 1% (mmBTU)

PAUSE

Questions and discussion

Waste



Makes up 1.5% of
area emissions

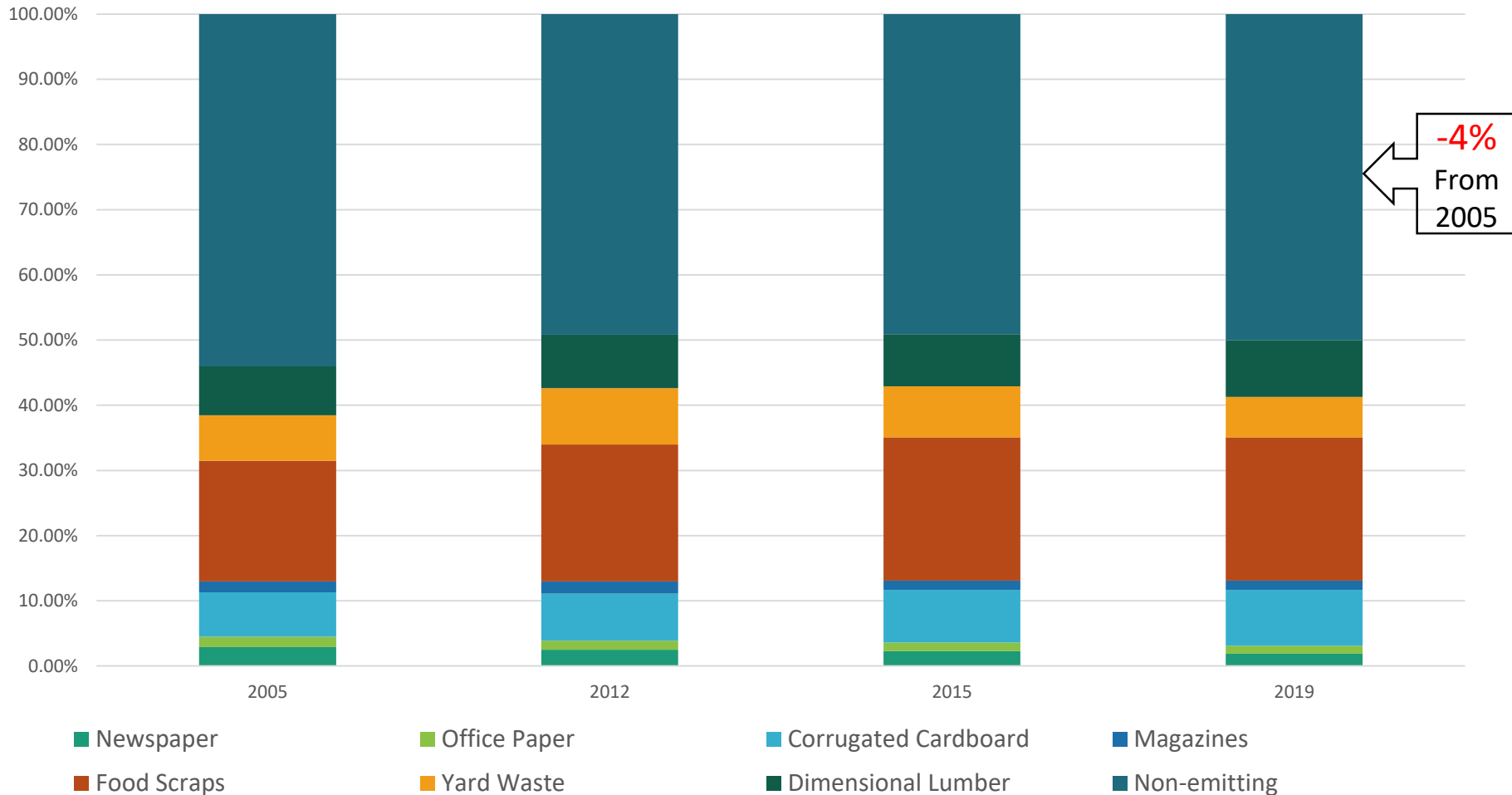


73% higher due to
projected increases
in waste generation

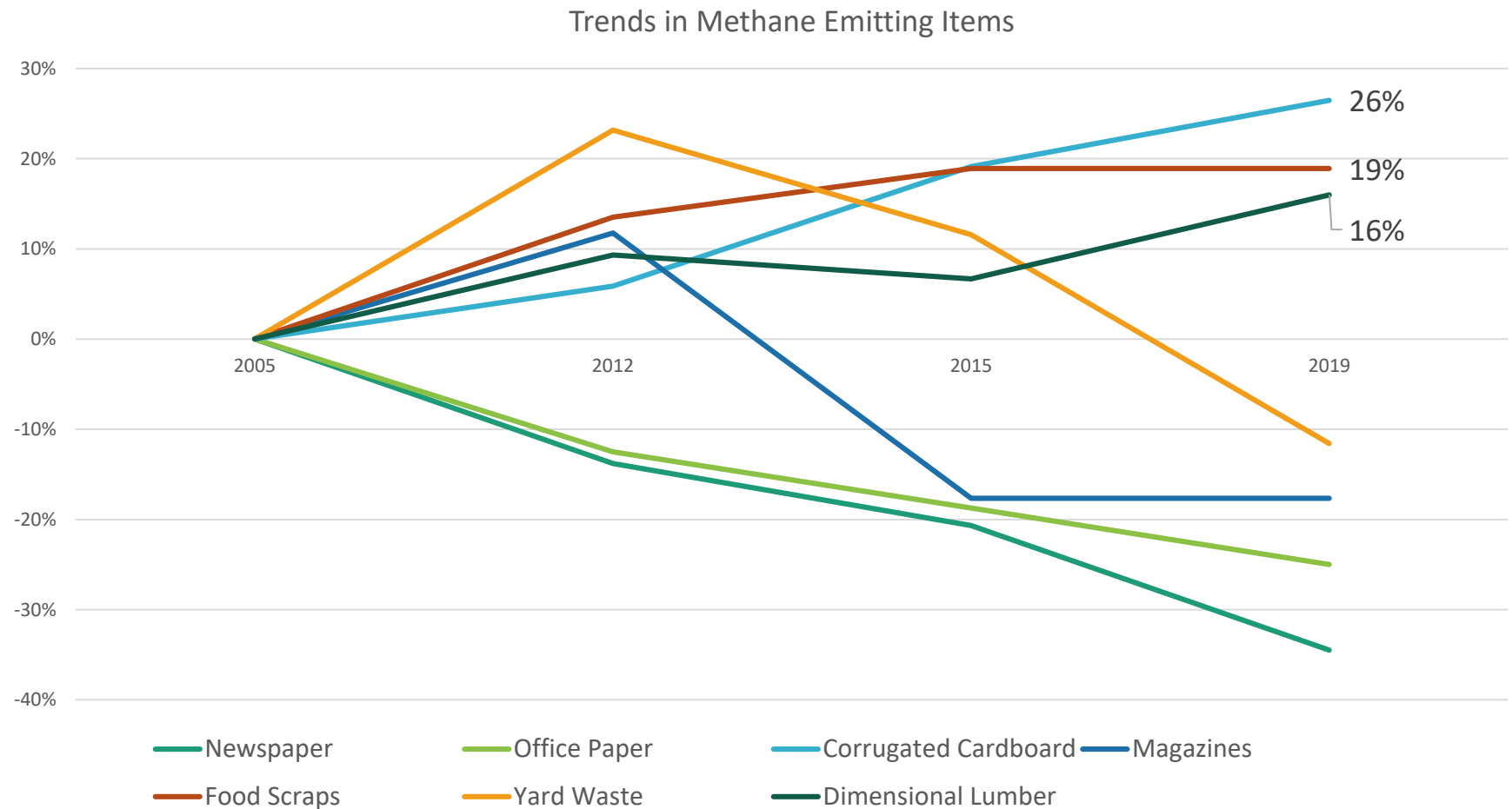


Characterized using
national data

Municipal Solid Waste Characterization



Municipal Solid Waste Trends



PAUSE

Questions and discussion

Mayor's Climate Council

FIVE MINUTE BREAK



Identifying strategies



A starting point

Staff started with USDN High Impact Practices (HIPs)

- Draws upon leading Climate Action Plans and studies.
- Effective emission reduction strategies.
- Established by national local sustainability experts and practitioners.

What HIPs are not

- A blueprint to achieve our goals
- 100% comprehensive list of all possible mitigation strategies
- Reflective of unique Knoxville-area priorities




Leveraging knowledge of the USDN network



Garrett Fitzgerald
Strategic Collaboration Director
Urban Sustainability Directors
Network

Survey

- Staff have created a survey that starts the discussion with a multitude of generalized strategies pulled from USDN's research.
- The survey will ask you to prioritize importance on a scale of 1-5.
- There will be a comment section to provide feedback on any nuance you'd like to add to why you prioritized it a certain way
- There will also be the opportunity to write-in your own suggestions.
- Staff will aggregate and summarize results for July meeting.



High Priority:
The City needs
to reduce
energy use.

Opportunity:
High efficiency
lighting has a
good payback.

Action: City
should convert
streetlights to
LED

Centering Equity

- Front-line communities are those most vulnerable to the effects of climate change.
- Many front-line communities face immediate challenges and have been historically marginalized.
- Equity Work Group
 - Assess & present community needs to inform planning
 - Review proposed actions to assess benefits and burdens
 - Propose Equity Implementation Principles

PAUSE

Questions and discussion

Next Steps

Homework:

- Staff will work with Climate Council members to survey and prioritize general strategies
- Climate Council members will receive scheduling polls to confirm the slate of meetings for the year
- Next meeting will be July 2020. Once dates are confirmed, the full year of meeting dates will be available online.
- Past meeting information (presentations and notes) will be made available at www.knoxvilletn.gov/climatecouncil/

Thank you!

Climate Council Website:

www.knoxvilletn.gov/climatecouncil/

Primary Contact:

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